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Washington, DC
New York
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EX PARTE OR LATE FILED

January 13, 1995

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

Re: ET Docket No. 93-7 -- Ex Parte Presentation

Dear Mr. Caton:

On Friday, January 13, 1995, Daniel Ackerson, Chief Executive Officer, and Quincy Rodgers, Associate General Counsel and Director of Government Affairs of General Instrument Corporation, and I met with Commissioner Susan Ness and David Siddall in connection with the above-captioned proceeding. The substance of our discussion is contained in the attached letter.

Sincerely,

Philip L. Verveer

cc: Commissioner Susan Ness
David Siddall

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General Instrument

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January 12, 1995

Commissioner Susan Ness
Federal Communications Commission
1919 M Street, N.W.
Room 832
Washington, D.C. 20554

Re: ET Docket No. 93-7 -- Equipment Compatibility

Dear Commissioner Ness:

I am writing to you to convey a serious concern on the part of General Instrument Corporation ("GIC") regarding an issue in the equipment compatibility proceeding, which, if not properly decided, will lead to the establishment of an unwanted bottleneck at the TV receiver, contrary to the Commission's compatibility goals.

GIC has firmly supported the adoption of an "IR pass through" capability as part of the Commission's Decoder Interface standard. The Consumer Electronics ("CE") industry has consistently opposed this requirement. The IR pass through provides a mechanism for remote controls to communicate with set-back modules that will plug into the Decoder Interface connector. Such a pass through is needed to ensure that as new features (such as interactive programming guides) develop and are implemented in set-back feature modules, consumers will be able to communicate with these features using their remote control devices.

In short, adoption of an IR pass through will facilitate open competition among TV and set-back suppliers and ensure consumer access to new and evolving features and services. GIC strongly urges the Commission to reject the CE side's attempt to impede these pro-consumer developments, for the reasons discussed more fully below.

As a manufacturer of several million IR-controlled products annually, GIC fully understands the technology and economics of IR technology. Based on more than a decade of such experience, GIC believes that not only will the IR pass through expand competition and consumer choice, but it is

both technically feasible and very economical to implement -- costing less than $.25 in most instances.

On November 23, 1994, GIC made an ex parte presentation to the Office of Engineering and Technology (using a TV set, remote control device, and a simulated Decoder Interface set up) which demonstrated the economic and technical feasibility of an IR pass through. In addition, on December 15, 1994, NCTA made a similar presentation to OET staff. GIC fully endorses the NCTA ex parte presentation on IR pass through technology.

To round out the current debate over the IR pass through issue, GIC respectfully submits the following four points for your serious consideration.

I. ESSENTIAL FOR DELIVERY OF INNOVATIVE SERVICES.

An IR pass through is essential for accommodating current and future video services. The consumer electronics ("CE") proposal to use EIA's existing IR command set in lieu of an IR pass through will limit the Decoder Interface's capability and prevent it from servicing the needs of subscribers and providers of set-back feature modules.

The last official statement provided by the CE side to the cable side on July 8, 1994 contained only 32 "Messages from TV to Decoder" and only 7 "Messages from Decoder to TV." These "Messages" are a subset of those which cable listed in its April 29, 1994 document as the minimum requirements for offering current services, let alone future services. Moreover, the GIC ex parte presentation lists over fifty functions which are not accommodated by EIA's limited command set. If the intentions of ¶ 42 of the Commission's April 4, 1994 Equipment Compatibility Report and Order (FCC 94-80) are to be fulfilled, an open interface with full capability is required. Otherwise, cable and other affected industries will be precluded from offering the services consumers want through the Decoder Interface.

For example, interactive systems that depend on cursor movements in 16 vector directions could not be accommodated by EIA's fixed command set; rather, such advanced services will require the flexibility afforded by an IR pass through capability to enable consumers to "talk" to these new services entering their homes. Without such flexibility, the critical "look and feel" of new services will be severely constrained, thereby limiting the appeal and utility of these services to consumers. As another example,

services which are part of the National Information Infrastructure will require the ability to receive alphanumeric data input. This is not possible with EIA's severely limited command set.

In short, without an IR pass through capability, the whole concept of the Decoder Interface as a compatibility-enhancing device will be severely impaired and may actually fail, since consumers will be unable to communicate with new features and services delivered through set-back modules. In essence, failure to implement an IR pass through will result in the ultimate irony: In endeavoring to prevent cable systems from impairing the functionality of TVs/VCRs, the Commission will have adopted a compatibility "solution" that impairs the functionality of all video service providers and set-back suppliers. Such a derailment of the Commission's compatibility and innovation objectives will be avoided by implementation of an IR pass through capability which will enable consumers to send the raw IR data from the remote to set-back feature modules and thereby control all present and future functions of innovative services.

II. NO NEW INTERFERENCE.

Those who have claimed that an IR pass through will increase IR interference, will be unreliable, or will experience "false triggering" because devices will be confused by strange IR codes are simply incorrect. Strange codes are already sharing the air space between the couch and the TV/VCR. These codes come from a variety of in-home products from a wide list of manufacturers: Cable set tops, TVs, VCRs, stereo systems, laser disk players, CD players, digital audio tape players, video games, and interactive products. Despite this existing flood of IR codes, manufacturers and marketplace forces have already provided effective isolation between IR signalling codes.

This situation will not be altered by the implementation of an IR pass through. Set tops use the same IR codes as would set-back modules. In both cases, the TV/VCR will "see" the same IR signals and process them as it does today. In short, the mere fact that IR codes are received via an IR pass through will not increase the burden on TV/VCR receivers to process IR codes.

III. LIMITED TO "CABLE READY" SETS.

The IR pass through is being recommended only for "cable ready" products. Consumer electronics manufacturers are under no obligation to produce any of these products. They are free to decide whether to sell such products and, if so, when. It is imperative that during the lifetime of such devices, they are "cable ready" to the greatest extent possible. Since no one can foresee the future, we must not limit it. This is especially true here, given the minimal cost of ensuring such flexibility for the future.

IV. AVOIDING THE CREATION OF A NEW BOTTLENECK.

The CE opposition to an IR pass through amounts to little more than an effort to obtain a privileged position in the offering of consumer electronics features and new services, at the expense of consumer choice. By insisting on the adoption of EIA's limited command set, thereby effectively complicating the ability of consumers to communicate with network operators and third-party set-back feature modules, the CE side seeks to establish itself as a gatekeeper controlling what capabilities may be offered in Decoder Interface modules.

The Commission should send a clear message that neither its authority nor its policies permit it to grant CE manufacturers such a privileged position. Rather, the Commission should pursue the open approach represented by the IR pass through and allow CE manufacturers and third-party set-back suppliers to compete in the provision of new features. Such an approach, based on marketplaces forces and consumer choice, is wholly consistent with congressional and Commission policy objectives.

* * *

A copy of the handout from GIC's November 23, 1994 ex parte presentation is attached for your convenience. I am also distributing copies of this letter to your fellow Commissioners and legal staff for their consideration. If you have any questions or would like to discuss or see a

presentation on any aspect of the IR pass through, GIC would be pleased to assist the Commission in any way it can.

Sincerely,

Geoffrey S Roman

Geoffrey S. Roman
Vice President Technology and
Business Development
Communications Division

cc: Mary McManus, Legal Advisor
David Siddall, Legal Advisor
William F. Caton, Secretary

Enclosures

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General Instrument

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Quincy Rodgers
Associate General Counsel
and Director

November 23, 1994

EX PARTE OR LATE FILED

William F. Caton, Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

RE: ET Docket No. 93-7, Ex Parte Presentation

Dear Mr. Caton:

On Wednesday, November 23, 1994, representatives of General Instrument Corporation (GIC) made an ex parte to Richard Smith, Bruce Franca and Allan Stillwell of the Office of Engineering and Technology regarding unresolved issues in the above-referenced proceeding. GIC was represented by Quincy Rodgers, Walter Ciciora and Jeffrey Krauss.

The purpose of the meeting was to demonstrate the technical feasibility of "IR passthrough" (whereby IR codes intended for the cable decoder module are passed through the TV set transparently). In addition to the demonstration, the attached viewgraph presentation and the attached description of the passthrough circuitry were reviewed.

Sincerely,

Quincy Rodgers

Enclosures

The Cable Consumer Interface and The "IR Pass Through

Presentation

By General Instrument Corporation

The Message

- The EIA "Command Set" is inadequate - it will burden consumers
- Without The "IR Pass Through", the consumer is disadvantaged
- Participation by "other affected industries" (§42) requires it
- "IR Pass Through" is practical & cheap
- **Only needed on "cable ready"**
- Objections we've heard are not valid

Overview

- Why Do We Need It?
- Why Is It Practical?
- Answering the "Yes But's"
- Conclusion

Why Do We Need The IR Pass Through?

- The EIA "Command Set" is inadequate
- Did not anticipated important needs
  - » Is adequate for "Interactive" and "MultiMedia" services
- Can't accommodate the needs of other video providers
- Can't accommodate the needs of "feature box" makers
- No input from other video providers or "feature box" makers

Why Do We Need The IR Pass Through? - cont....

- The Goal of the Decoder Interface:
- **Improve Compatibility for consumers**
  - » Consumer should be better off with "cable ready" products
  - » And have access to ***all*** cable services
  - » Don't preclude functions found in set-tops!
    - – Access should be as easy as with a set-top;
  - » Consumer shouldn't have to learn new access procedures

Why Do We Need The IR Pass Through? - cont....

- EIA Command set lacks many Consumer needs:
  - » 1) Mode command control
    - – To easily switch between video providers
    - – Such as: cable, DBS, MMDS, LMDS, etc.
  - » 2) Display recall
    - – To get back the program identification and details
  - » 3) Guide access
    - – To easily find the way through "500 channels"

Why Do We Need The IR Pass Through? - cont....

- EIA set lacks many Consumer needs - cont.....:
- Menu Convenience Controls
  - » 4) Page up
  - » 5) Page down
  - 6) Page left
  - 7) Page right

Why Do We Need The IR Pass Through? - cont....

- EIA set lacks many Consumer needs - cont....
- For Digital Cable, DBS, MMDS, and LMDS:
  - » 8) Favorite channel
  - » 9) Parental control
  - » 10) Channel swap
- Audio controls
  - – 11) Alternate audio, different languages

Why Do We Need The IR Pass Through? - cont....

- EIA set lacks many Consumer needs - cont....
  - » Virtual VCR & VCR controller
    - – 12) Stop
    - – 13) Pause
    - – 14) Fast forward
    - – 15) Reverse
    - – 16) Play
    - – 17) Record

Why Do We Need The IR Pass Through? - cont....

- EIA set lacks Consumer needs - cont....
  - » 18) * 19) #
    - – Currently used in some cable services
    - – Consumers are familiar with these delimiters
  - » Menu Navigation Controls
    - – 20) Previous menu 21) Return to Main Menu
  - » Audio controls For Digital Audio Services
    - – 22) Mute
    - – 23) Volume up
    - – 24) Volume down
    - 25) Left - right balance
    - 26) Front - back balance

Why Do We Need The IR Pass Through? - cont....

- EIA set lacks Consumer needs - cont....
  - » 25) thru 54++) One finger "qwerty" keyboard
  - » Credit card reader
  - » Proportional pointing device (mouse)
    - – To be used in General Instrument set-tops
    - – Needed for Interactive and MultiMedia services
- "Cable Ready" shouldn't be second rate!

Why Do We Need The IR Pass Through? - cont....

- Consumer side of the Decoder Interface Committee *refuses* to consider **Consumer to system communications**
  - » Only addressed Consumer Electronics Product to Module communications
  - » Can't complete design of module products!
  - » Can't create operation manual for modules!
  - » Can't answer subscriber questions!

Why Do We Need The IR Pass Through? - cont....

- We can't speak for other video providers
  - » DBS, Telco, MMDS, Cellular TV
- We can't speak for "feature module" makers
  - » Electronic Program Guides, PIP, Games
  - » Interactive Television adapters
  - » MultiMedia adapters

Why Is It Practical?

- GI makes millions of IR controls
- GI knows the technology & economics!:
  - » Three resistors @ 0.5 ¢ = 1.5¢
  - » One transistor @ 2¢
  - » Opto-Isolator @ 20¢
  - » Total Cost = less than 25¢
- Will use pins on Decoder Interface
  - » Want more than the twenty
  - » Use next higher connector family member

Why Is It Practical? - cont....

- Demonstration of Inexpensive TV with IR Pass Through added
- Wired connection to "set-back" module simulation
- Uses inexpensive ($10 to $20) Universal Remote Control
  - » Could be provided with TV
  - » Purchased at retail
  - » Purchased or rented from cable operator

Answering the "Yes But's"

- It's not needed
- It will be expensive
- It doesn't fit our design approach
- It will confuse the TV's micro
- Maybe we won't use IR
- It's a Cable ruse to rent remote controls

Answering the "Yes But's" - cont....

- "*Yes but, It's not needed*"
- Yes it is!
  - » Decoder Interface is arbitrarily crippled without it
  - » Consumer is disadvantaged
  - » Other video providers would be hindered
  - » Feature box makers would be obstructed

Answering the "Yes But's" - cont....

- "*Yes but, It will be expensive*"
  - » Parts costs are way less than a dollar
- "*Yes but It doesn't fit our design approach*"
  - » It's only needed on "Cable Ready" Product
  - » Plenty of time to adjust design
- Cripples Parental Control, Favorite Channel, and Channel Swap